

Race Initiative Summary Report on Cardiovascular Disease

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I. Epidemiology

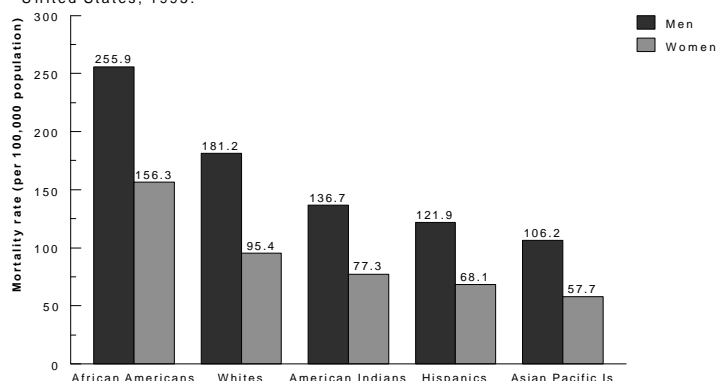
Cardiovascular Disease (CVD), primarily coronary heart disease and stroke, kills nearly as many Americans as all other diseases combined and is a leading cause of disability. Although mortality rates from CVD have declined over the last two decades, it remains the leading cause of death for all racial and ethnic groups in the United States.¹ The impact of premature morbidity from CVD on the ability of affected individuals to function independently or to participate fully in everyday life is devastating in terms of personal loss, pain, suffering, and effects on families and loved ones. The annual national economic impact of CVD nationwide as measured in health care expenditures, medications, and lost productivity due to disability and death is estimated at \$274 billion.²

CVD accounts for 32.4% of deaths among African-American men and 41.6% of deaths among African-American women.¹ In 1995, death rates due to CVD were 330.9 per 100,000 population for African American men (49% higher than for white men) and 213.2 per 100,000 African-American women (67% higher than for white women). Among American Indian/Alaska Natives (AI/AN) CVD accounted for 26.0% of deaths among men and 28.4% of deaths among women. It accounted for over one-third of deaths among Asian/Pacific Islanders; 35.4% of deaths among men and 36.1% of deaths among women were secondary to CVD. Finally, approximately one of four deaths among Hispanic men (25.4%) and one of three deaths among Hispanic women (34.0%) were due to CVD.¹

Coronary Heart Disease

Deaths rates of coronary heart disease (CHD), vary widely in different racial/ethnic

Age-adjusted coronary heart disease mortality rates by race/ethnicity and gender, United States, 1995.



groups; the highest death rates are

among African-Americans, followed by

whites, AI/AN, Hispanics and

Asian/Pacific Islanders.¹

In addition to the high mortality

rates, CHD is a highly prevalent

condition; 6.9% of African-Americans

and 5.6% of Mexican Americans have CHD. The Third National Health and Nutrition

Examination Survey (NHANES III) estimates that 2.6% of African-American men; 5.2% of

African-American women; 3.4% of Mexican American men and 4.6% of Mexican American

women have angina.² Nationally representative estimates for the prevalence of CHD and angina

are currently not available for AI/AN and Asian/Pacific Islanders.

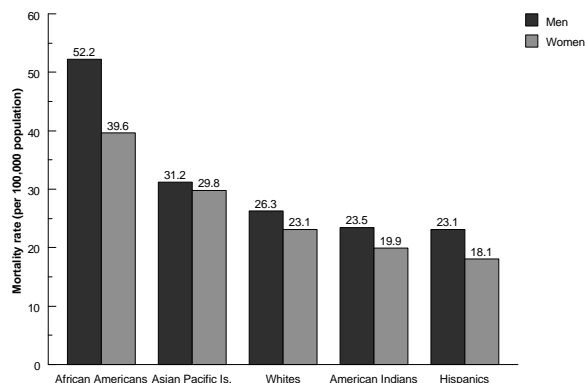
Stroke

Stroke is the third leading cause of death and the leading cause of severe disability in the

United States.¹ In 1998, the direct and indirect costs associated with stroke have been estimated

at \$43.3 billion.² There are substantial differences

Age-adjusted stroke mortality rates by race/ethnicity and gender, United States, 1995.



in stroke mortality rates across the different races

and ethnic groups. Stroke mortality rates are

highest among African-Americans followed by

Asian/Pacific Islanders, whites, AI/AN and

Hispanics.¹ Mortality rates among African-American men are 97% higher than among white men and rates among African-American women are 71% higher than among white women. In younger age groups (<65 years), the disparities between African-American and whites are even more pronounced.³ Prevalence estimates from NHANES III indicate that 1.8% of African American men, 2.5% of African American women, 1.1% of Mexican American men and 0.8% of Mexican American women have suffered a stroke.² Nationally representative estimates for prevalent stroke are not available for American Indian/Alaska natives and Asian/Pacific Islanders.

Heart Failure

The number of persons living with heart failure is increasing and heart failure is currently the leading cause for hospitalization among Medicare beneficiaries.⁴ The economic costs associated with heart failure are also substantial, \$20.2 billion in 1998.² Death rates from heart failure in 1995 were 8.8 per 100,000 population among African American men (31% higher than for white men) and 7.1 per 100,000 population among African American women (32% higher than for white women). 3.2% of African American men and 2.8% of African American women have heart failure.² The estimated rate of new or recurrent heart failure events for African American men aged 65-74 is 21.1 per 1000 population; for ages 75-84 it is 52.0 per 1000 and for 85 and older it is 66.7 per 1000. For African American women the rates are 18.9, 33.5 and 48.4 respectively. Mortality data and prevalence estimates for other racial/ethnic groups for heart failure are currently not available.

II. Description of Objectives and Targets

Year 2000 Objectives:

National cardiovascular disease prevention objectives were developed for Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Many of these objectives included subpopulation objectives for various racial and ethnic groups. The Year 2000 cardiovascular disease prevention objectives for the for the nation that are pertinent to the President's Race Initiative are listed below:

15.1. Reduce coronary heart disease deaths to no more than 100 per 100,000 population.

15.1a African-Americans target 115 per 100,000

15.2. Reduce stroke deaths to no more than 20 per 100,000 population.

15.2a African-Americans target 27 per 100,000 population.

15.3 Reverse the increase in end-stage renal disease (requiring maintenance dialysis or transplantation) to attain an incidence of no more than 13 per 100,000 population.

15.3a African-Americans target 30 per 100,000 population.

15.4 Increase to at least 50% the proportion of people with high blood pressure whose blood pressure is under control.

15.5 Increase to at least 90% the proportion of people with high blood pressure who are taking action to help control their blood pressure.

15.5a Hypertensive African-American men aged 18-34 target 80%.

15.6 Reduce the mean serum cholesterol level among adults to no more than 200 mg/dL.

- 15.7 Reduce the prevalence of blood cholesterol levels of 240 mg/dL or greater to no more than 20% among adults.
- 15.8 Increase to at least 60% the proportion of adults with high blood cholesterol who are aware of their condition and are taking action to reduce their blood cholesterol to recommended levels.
- 15.9 Reduce dietary fat intake to an average of 30% of calories or less and average saturated fat intake to less than 10% of calories among people aged 2 and older.
- 15.10 Reduce overweight to a prevalence of no more than 20% among people aged 20 and older and no more than 15% among adolescents aged 12 through 19.
 - 15.10a. African-American women aged 20 and older target 30%
 - 15.10b. Hispanic women aged 20 and older target 25%
 - 15.10c. American Indian/Alaska Natives target 30%
- 15.11 Increase to at least 30% the proportion of people aged 6 and older who engage regularly, preferable daily, in light to moderate physical activity for at least 30 minutes per day.
- 15.12 Reduce cigarette smoking to a prevalence of no more than 15% among people aged 20 and older.
 - 15.12a. African-Americans aged 20 and older target 18%
 - 15.12b. Hispanics aged 20 and older target 18%
 - 15.12c. American Indians/Alaska Natives target 20%
- 15.13 Increase to at least 90% the proportion of adult who have had their blood pressure measured within the last 2 years and can state whether their blood pressure was normal or

high.

15.14 Increase to at least 75% the proportion of adults who have had their blood cholesterol checked within the preceding 5 years.

15.15 Increase to at least 75% the proportion of primary care providers who initiate diet, and if necessary, drug therapy at levels of blood cholesterol consistent with current management guidelines for patients with high blood cholesterol.

15.16 Increase to at least 50% the proportion of work sites with 50 or more employees that offer high blood pressure and/or cholesterol education and control activities to their employees.

Proposed Year 2010 Objectives:

As a means of reducing the burden of cardiovascular disease among US adults, national health objectives for the year 2010 have been proposed. In contrast to previous objectives, and in order to reduce racial disparities in cardiovascular disease, all racial and ethnic groups will be expected to achieve the same objective. The proposed objectives for the year 2010 that are pertinent to the President's Race Initiative are listed below:

1. Reduce coronary heart disease deaths to no more than 85 per 100,000 population.
2. Reduce to 25% the proportion of women who die within 1 hour after having a heart attack.
3. Increase to 75% the proportion of US adult public, aged 20 years and over, who are aware of the early warning symptoms and signs of a heart attack and cardiac arrest and the importance of accessing rapid emergency care by calling 9-1-1.

4. Increase to 75% the proportion of females who are aware that heart disease is the leading cause of death for all females.
5. Reduce to 16% the proportion of adults with high blood pressure.
6. Increase to at least 50% the proportion of people with high blood pressure whose blood pressure is under control.
7. Increase to at least 95% the proportion of people with high blood pressure who are taking action to help control their blood pressure.
8. Increase to at least 95% the proportion of adults who have had their blood pressure measured in the preceding 2 years and can state whether their blood pressure was normal or high.
9. Reduce the mean serum cholesterol level among adults to no more than 195 mg/dL.
10. Reduce the prevalence of blood cholesterol levels of 240 mg/dL or greater to no more than 15% among adults.
11. Increase to at least 75% the proportion of adults who have had their blood cholesterol measured in the preceding 5 years.
12. Increase to at least 50% the proportion of females with coronary heart disease who have their LDL cholesterol level treated to goal (less than 100 mg/dL).
13. Increase to at least 50% the proportion of men with coronary heart disease who have their LDL cholesterol level treated to goal (less than 100 mg/dL).
14. Reduce stroke deaths to no more than 17 per 100,000 population.
15. Increase to at least 50% the proportion of US adult public, aged 20 and over, who are aware of the early warning symptoms and signs of stroke (brain attack).

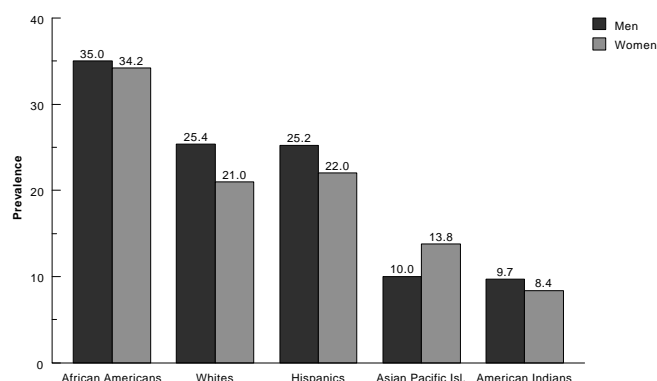
III. Underlying Causes of Disease

Risk Factors

The major modifiable risk factors for CVD are high blood pressure, cigarette smoking, high blood cholesterol, excessive body weight, physical inactivity, and diabetes mellitus. The greatest potential for reducing heart disease and stroke morbidity, disability, and mortality

appears to be in the form of prevention.

Prevalence of hypertension among adults aged ≥ 20 by race/ethnicity and gender, United States.



High Blood Pressure

High blood pressure or hypertension is a major risk factor for heart disease and the most important risk factor for stroke.⁵ The prevalence of hypertension varies markedly according to race/ethnicity⁶ with the highest prevalence among African-Americans followed

by whites, Hispanics, Asian/Pacific Islanders, and AI/AN.

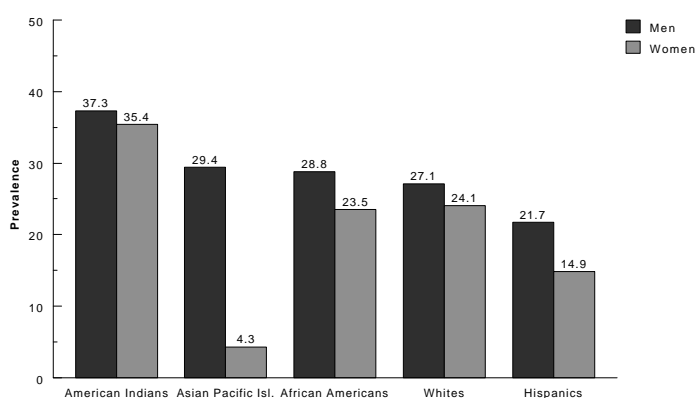
There are also regional differences in the prevalence of hypertension, with higher rates in the southeastern United States, particularly among African-Americans.⁵

African-Americans tend to develop hypertension at an earlier age, and, at any decade of life, hypertension is more severe among African-Americans than it is among whites.⁵

Approximately 71% of all African-Americans over age 60 have high blood pressure; 30% of all deaths among hypertensive African-American men and 20% of deaths among hypertensive African-American women may be attributable to high blood pressure. In 1995, death rates from

high blood pressure were 29.6 per 100,000 population among African-American men (355% higher than for white men) and 21.7 per 100,000 population among African-American women (352% higher than for white women).⁵

Prevalence of smoking among adults aged ≥ 20 by race/ethnicity and gender, United States.



Smoking

Over 400,000 deaths each year are attributed to cigarette smoking, and smoking rates vary considerably according to race/ethnicity.⁷ The highest rates of smoking occur among AI/AN, followed by Asian/Pacific

Islanders (men only), African-Americans, whites, and Hispanics.⁸

Smoking among the young is especially problematic. In 1995, the percentage of African-American male high school students who had smoked or used smokeless tobacco in the preceding 30 days were 28.8% and 3.2%, respectively; for African-American females the percentages were 17.4% and 1.3% respectively. Among Hispanics the respective prevalence estimates were 21.7% and 32.3% among males and 8.4% and 1.2% among females.⁷

Environmental exposure to tobacco products is also highly prevalent among racial/ethnic minority populations. Among persons who do not use tobacco products, 37% of African-American and 35.1% of Mexican American adults report exposure to environmental tobacco

smoke at home or work.⁷

High Blood Cholesterol

Elevated cholesterol levels are a major risk factor for CHD. Cholesterol levels above 240 mg/dL are considered high; those between 200 and 240 mg/dL are borderline-high; and those less than 200 mg/dL are desirable.⁹ The prevalence of high blood cholesterol differs markedly according to race and ethnicity.¹⁰ Among African-Americans aged 20 and older, 46% of men and 47% of women have blood cholesterol levels over 200 mg/dL, and 16% of men and 20% of women between the ages of 20 and 74 have cholesterol levels of 240 mg/dL or more. Elevated cholesterol levels are also a major problem of Hispanic adults. Among Mexican Americans aged 20 and older, 47% of men and 43% of women have blood cholesterol levels over 200 mg/dL; and 18% of Mexican American men and women between the ages of 20 and 74 have blood cholesterol levels of 240 mg/dL or more.¹⁰ Nationally representative prevalence estimates for elevated cholesterol levels are not available for AI/AN and Asian/Pacific Islanders. However, 26.0% of AI/AN men, 29% of AI/AN women, 7.4% of Asian Pacific Islander men, and 25.8% of Asian Pacific Islander women aged 18 and older have been told by a health professional that they have elevated cholesterol levels.²

Elevated cholesterol levels are also a major public health problem among the young, particularly in African-Americans. Among African-American less than 20 years of age, 37% of males and 46% of females have cholesterol levels ≥ 170 mg/dL.¹⁰

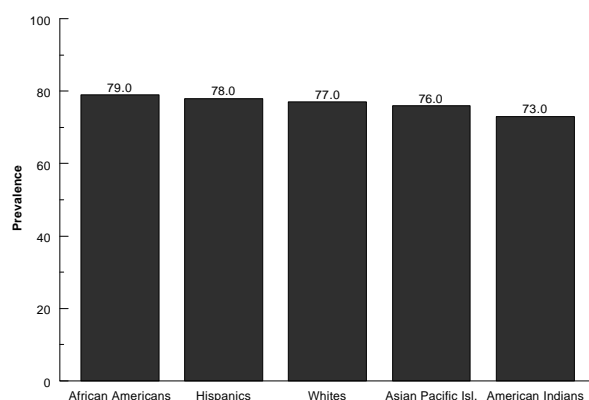
Physical Inactivity

Physical inactivity is an important risk factor for heart disease, stroke, hypertension, high blood cholesterol, overweight, and diabetes mellitus.¹¹ In 1995, the proportion of adults in the United States who did not engage in at least 30 minutes of physical activity 5 or more days per

week was highest among African-Americans, followed by Hispanics, whites, Asian/Pacific Islanders, and AI/AN. Physical inactivity is more prevalent among older adults and among less affluent people. People with less than a 12th grade education are also more likely to be sedentary.¹¹

Although the young are more likely to be physically active than older persons, physical inactivity

Prevalence of physical inactivity among adults aged ≥ 20 by race/ethnicity, United States.

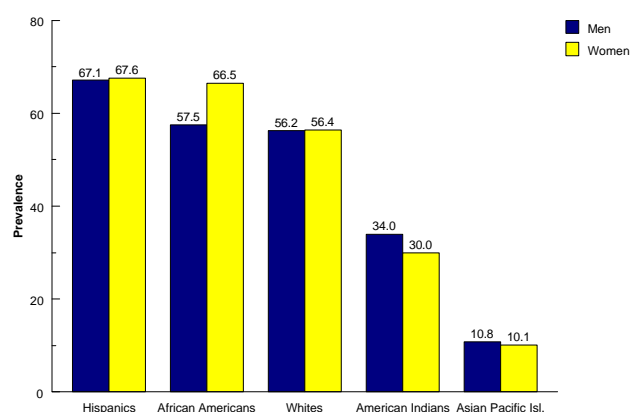


is still a major problem among minority youth. In the 12 to 21 age group, 20.6% of African-American males, 38.1% African-American females, 29.1% of Hispanic males, and 43.8% of Hispanic females reported no participation in moderate or vigorous activity during the preceding 7 days.¹¹ Nationally representative prevalence estimates for physical inactivity among youth are not available for Asian/Pacific Islanders or AI/AN.

Excess Body Weight

Excess body weight is an important risk factor for heart disease, stroke, hypertension, high blood cholesterol, and diabetes mellitus. One of three U.S. adults is overweight and the proportion of the U.S. population that is currently overweight is increasing.¹² The prevalence of

Prevalence of overweight (BMI ≥ 25 kg/m²) among adults aged ≥ 20 by race/ethnicity and gender, United States.



overweight varies markedly according to

race/ethnicity with the highest rates occurring among Hispanics, followed by African-Americans, whites, AI/AN, and Asian Pacific Islanders. Although the prevalence of overweight tends to be relatively low among Asian/Pacific Islanders, there are subgroups,

such as native Hawaiians, who have a particularly high prevalence of overweight (65.5% of men and 62.6% of women).²

Overweight is also a major public health problem among young people, particularly Hispanic youths. Among Mexican Americans aged 6-11 years, 18.8% of boys and 15.8% of girls are overweight.² For ages 12-17, the prevalence estimates are 14.8% for boys and 13.7% for girls.

Diabetes Mellitus

Diabetes mellitus is an important risk factor for heart disease, stroke, end-stage renal

disease, and blindness. The prevalence of

diabetes mellitus is highest among African-

Americans followed by AI/AN, Hispanics,

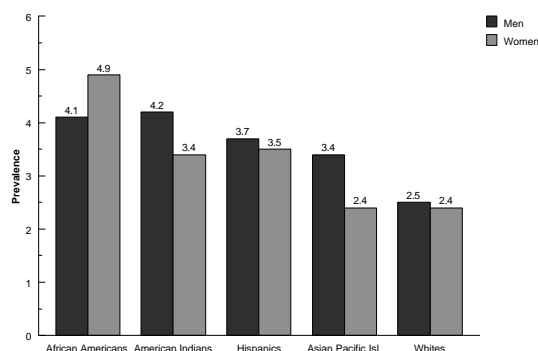
Asian/Pacific Islanders, and whites. People with

diabetes mellitus are substantially more likely to

have hypertension, high blood cholesterol, and to

be overweight -- all factors that further increase

Prevalence of diabetes mellitus among adults aged ≥ 20 by race/ethnicity and gender, United States.



the risk for CVD.

Clinical Care

A number of clinical interventions are highly effective in reducing morbidity and mortality among persons with CVD. However, the use of these clinical interventions differ markedly by race and ethnicity. Results from the Atherosclerosis Risk in Communities Study indicate that African-Americans are half as likely as whites to take aspirin regularly.¹³ Beta blocker and angiotensin converting enzyme (ACE) inhibitor use also differ markedly by race; with African-Americans being less likely to receive these preventive therapies.¹⁴ At present there are no data describing the use of aspirin, beta blockers, and ACE inhibitors among Hispanics, American Indian/Alaska Natives, and Asian Pacific Islanders. The use of medical report cards, chart reminders, and patient educational materials have proven effective in increasing the delivery of these clinical services to patients with heart disease. There is a clear need to increase the use of these interventions among minority populations.

In addition, a number of invasive cardiac procedures, including angioplasty and coronary artery bypass surgery, are effective in reducing morbidity and mortality among persons with coronary heart disease. However, the use of these procedures varies widely by race and gender with white men being the most likely to receive these procedures followed by black men, white women, and black women.¹⁵ In another study of Medicare patients, white patients were more likely than African American patients to receive revascularization procedures after angiography.¹⁶ These findings are consistent across all types of hospitals and may represent the overuse of revascularization among white patients or the underuse among African American patients. The results from several studies suggest that long-term patient outcomes do not differ

by race and that treatment differences are not due to differences in severity of illness or to coexisting illness. It appears that revascularization procedures, particularly coronary artery bypass surgery, are not adequately used among African American patients who need them. Peterson et al. reported that of patients who had already undergone a first cardiac catheterization, 48% of African American patients with severe disease underwent bypass surgery versus 65% of severely ill white patients, while 12% of African American patients without severe disease underwent surgery compared with 15% of similarly sick white patients¹⁷. Potential explanations for the differential use of invasive cardiac procedures include: unmeasured clinical factors, the unequal distribution of socioeconomic resources, differences in patient preferences and physician bias. The use of these procedures in other racial/ethnic populations has not been well described. On-going work should focus on confirming racial and ethnic differences in the use of invasive cardiac procedures and identifying the etiology for these differences including: the availability of technology and patient preferences.

Yet another treatment for cardiovascular disease where large racial disparities in treatment exists includes the use of thrombolytic therapy. A recent study of Medicare beneficiaries found that 11% of eligible African American patients received thrombolytic therapy compared with 68% of eligible white patients. These racial disparities persisted even after adjustments for severity of illness and coexisting medical conditions. Since the same proportion of African American and white patients refused thrombolytic therapy, racial differences in preference for thrombolytic therapy was not the source of the differences in treatment. These results suggest that thrombolytic therapy may have been withheld inappropriately from African American patients.¹⁸ However there have been a number of projects

that have been effective in reducing delay times and increasing the use of thrombolytic therapy for myocardial infarction patients, one of the project with the most impressive results is the Health Care Financing Administrations Cooperative Cardiovascular Project.

Finally, there also appear to be large racial differences in the treatment for peripheral vascular disease. A comparison of amputation and leg-sparing surgery among Medicare beneficiaries with lower extremity peripheral vascular disease found that African American patients were significantly less likely to undergo lower-extremity arterial revascularization and angioplasty than their white counterparts. These associations were consistent among both diabetic and non-diabetic patients, but were stronger among non-diabetics. Potential explanations for these differences include differences in disease severity and technical expertise available at hospitals across race groups, rates of adherence with medical recommendations, and race-specific treatment decisions by patients and providers.¹⁹

These findings suggest that unless these race and ethnic disparities in the treatment of cardiovascular disease are addressed; it is likely that the racial and ethnic disparities in cardiovascular disease will remain.

Socioeconomic Status (SES) and Wealth

Measures of SES -- income, education, and occupation -- are inversely related to CVD, hypertension, smoking, high blood cholesterol, physical inactivity, overweight, and diabetes mellitus.²⁰ There are substantial differences in measures of SES and wealth according to race/ethnicity. According to the 1990 Census, the proportion of U.S. adults who had completed 4 years of college was lowest among Hispanics (9.8% of men and 8.7% of women) and African-Americans (11.9% of men and 10.8% of women), and was highest among Asian/Pacific

Islanders (44.9% of men and 35.4% of women). In 1990, median household income also differed markedly according to race/ethnicity as follows: \$22,393, African-Americans; Hispanics \$22,860; and whites \$35,766. Measures of wealth also have differed markedly according race/ethnicity; median household net worth in 1993 was \$4,418 for African-Americans; \$4,656 for Hispanics and \$45,740 for whites. Even among those in the highest quartile of income there have been substantial racial/ethnic differences, in median net worth: African-Americans \$45,023; Hispanics \$55,923 and whites \$123,350.

Health care coverage is an important determinant of access to care; in 1995, among persons under age 65, 15.7% of whites, 20.1% of African-Americans and 31.5% of Hispanics reported having no health care coverage.

Mental Health and CVD

Chronic medical diseases are common among persons with mental illness and those with co-occurring mental and substance abuse disorders.²¹

Some mental disorders are reportedly associated with increased heart rate, high blood pressure, and forearm blood flow. Some psychotropic medications have been noted to affect cardiovascular functioning.²²

Data reported below are from the results of a 1985 study of a sample of Community Support Programs (CSP).²³ Significantly higher rates of physical illness were noted among clients with Organic Brain Syndrome (OBS) and other nonpsychotic disorders:

- For all psychiatric disorders, 8% of clients had hypertension
- 16.1% of clients with other nonpsychotic disorders had hypertension

- 13.5% of clients with OBS had hypertension
- 9.5% of clients with depression had hypertension
- 6.8% of clients with schizophrenia and other psychoses had hypertension
- For all psychiatric disorders, 7.9% of clients had circulatory or heart disease
- 17.9% of clients with OBS had circulatory or heart disease
- 14.2% of clients with other nonpsychotic disorders had circulatory or heart disease
- 7.9% of clients with depression had circulatory or heart disease
- 7.1% of clients with schizophrenia and other psychoses had circulatory or heart disease

It is critical that we develop, test, and implement behavioral health interventions to accompany CVD treatment.

IV. Interventions to Address Underlying Causes of Disease or Condition

Although heart disease and stroke deaths occur primarily in middle and older age, we know that their onset is linked to lifestyle choices made many years earlier. Unchecked and untreated high blood pressure, cigarette smoking, overeating, too much fat and salt in the diet, and not enough exercise are lifestyle patterns fraught with potential health problems. Research from studies conducted as early as the 1950s and 1960s confirmed that these high risk behaviors, learned in childhood and adolescence and established in young adulthood, play a critical role in the development of CVD. Interventions to mediate high risk behaviors, whether started in the early years or later (but continued into adulthood), have been shown to be effective in reducing the onset of disease.^{24,25} Despite this knowledge and the fact that the age-adjusted death rate for CVD has declined, ethnic minorities and low SES populations still bear a higher risk of

developing and dying from CVD.²⁶

What has Worked

Some of the more successful interventions have taken place in schools, health care settings, worksites, and churches. For example, a review of 16 studies of primary prevention tactics (e.g., students not at high risk of CVD) identified several examples of success in modifying risk factors, such as smoking and physical inactivity, and in improving cognitive outcomes. However, physiologic outcomes (such as blood pressure and adiposity) were not consistently modified. Most of the studies took place at elementary schools and included significant numbers of at least one racial/ethnic minority group. Interventions included a classroom health education component and modified food service (reducing salt and/or fat content) or physical education (i.e., sports skills or aerobic fitness) programs.²⁷ Results from a number of intervention studies in health care settings showed modest effectiveness in changing patient behavior. Educational programs to improve prevention practices were most effective when combined with strategies such as office reminders (e.g., notes, call-backs), feedback, practice guidelines, and involvement of multidisciplinary health teams.²⁸ Improvements in smoking cessation rates and blood cholesterol levels were observed.²⁹

Preliminary results indicate that religious organizations may provide an excellent avenue for changing behaviors in populations at risk of CVD. Results of several recent studies suggest that partnerships between public health groups and religious organizations offer many advantages. The availability of important resources plus the opportunity to integrate simultaneously all aspects of spiritual health provide compelling reasons for a church-based health partnership. In

addition, religious organizations often include entire families and neighborhoods. With such a strong social support network in place, programs and interventions that encourage healthy behaviors may be sustained.³⁰

A review of studies conducted at worksites suggests that interventions can be successful when provided as a comprehensive, ongoing program targeting high risk individuals rather than as low intensity interventions for every worker.²⁸ Worksite-based intervention studies conducted as early as the late 1970s indicate that individualized, cardiovascular risk reduction counseling for high risk employees within the context of comprehensive programming may be the critical component of an effective worksite intervention. Review of the literature suggests that the worksite offers advantages similar to a religious organization in conducting interventions: convenience and low cost of repeated contact and support from intact social networks.^{31, 33}

Limitations and Gaps in Knowledge

Interventions to promote positive behavioral changes take place amid a complex array of institutional, social, and personal confluences and can target a variety of cognitive, behavioral, social, and institutional factors. Testing an intervention in multiple ethnic groups can reveal differences in how ethnic groups respond at many levels. Likewise, testing interventions by gender, age, or SES is equally important because, along with ethnic identity, are significant indicators of risk variation and impose diverse influences on the ability to effect behavioral change through intervention strategies. For example, SES is a likely confounder in studies that focus on ethnic differences in CVD because minorities are disproportionately poor, and the poor generally have limited access to health care, education, and occupational opportunities. The

conflux of individual, sociocultural, and societal influences cannot be ignored. Indeed, more studies when examining racial and ethnic disparities in health need to include measures of SES.^{26, 32}

Another limitation cited throughout the literature is the expectation of clinical outcome measures with regard to population-wide studies versus targeted subgroups. The consensus is that clinical outcome measures in population-wide studies may not show much difference after an intervention. This is especially true for measures of blood pressure, blood cholesterol levels, and amount of adipose tissue because initial rates would be lower for the general population compared with those at high risk. Thus, more significant changes are possible for clinical outcome measures in intervention studies that target specific high risk groups. Of course the literature also recommends that interventions be more specific to the desired behavioral change. Perhaps this is why studies that focus on reducing smoking or promoting physical activity, especially in the young, have had more success. Their connection to the intervention is more straightforward, and their outcome is easier to measure. In addition to using more sensitive outcome measures, the literature recommends increased testing of interventions to change mediating variables, e.g., increased availability of targeted foods or increased self-efficacy for eating targeted foods.³⁴

The literature points to insufficient research on the delivery vehicle necessary for introducing health interventions. Even though we live in an information-laden environment with ever increasing numbers of communication technologies, we lack the research to help us choose appropriate channels, (television, radio, newspapers, and other media) for health interventions. Studies that explored cognitive and behavioral consequences of using different information

channels (e.g., public television or radio) showed that interventions that relied solely on television produced the fewest significant behavioral changes. Whereas interventions that relied solely on print media produced the most behavioral changes. However, different media reach different segments of the population. These results suggest that program planners should use a combination of media channels to maximize outcomes for various groups in a population.³⁵

Another recommendation cited throughout the literature is to use a combination of two mutually reinforcing approaches to influence positive lifestyle change: a population-wide approach and a targeted subgroup approach. For example, the population-wide approach incorporates broad public appeal strategies that focus on the individual and or society. Although it may increase the awareness of the public and create an environment for a healthier lifestyle, population-wide approaches may not have much impact on high risk subgroups. The targeted subgroup approach, on the other hand, specifically develops intervention strategies for high risk populations. Each high risk group receives a tailored community-based intervention, uniquely developed for its demographic, physiologic, and/or sociocultural characteristics.²⁶ However, this approach is limited by the fact that 50% or more of coronary heart disease cases occur among persons who are not considered to be at high risk. Because they are not targeted, they may incorrectly believe themselves to be at no risk. It is important, therefore, to consider the two approaches as complementary strategies to lessen disparities in risk factors.²⁶

V. Community Intervention(s)

The social norms and environmental attributes of community settings have an important effect on residents' health. Governmental and private institutions influence health behaviors by

controlling health, recreational, and transportation services; youth access to tobacco and alcohol; and other related factors. Businesses shape health by implementing health and safety policies, providing worksite health promotion activities, and determining the types of food sold in stores and restaurants. Institutional policies influence health by providing normative sanctions and legitimacy to health innovations.

Community prevention programs and interventions are based on the recognition that health behaviors and health status are influenced not only by biological and psychological factors but also by economic, political, and sociocultural determinants. They offer a number of advantages over interventions directed at individual patients. In the case of CVD, nearly all people in the community are at some risk and may benefit from interventions to encourage and reinforce healthful behavior. Comprehensive community-based efforts that include multiple types of interventions can (1) influence the knowledge, attitudes, and behaviors of individuals; (2) create institutional and organizational support for programs; and (3) modify the environment so that it supports the initiation and maintenance of healthy actions.

A range of community demonstration programs for CVD control have been developed and implemented in the past. Although some were directed specifically toward minority populations, others included minority subjects as part of a larger study population to ensure that the overall findings are generalizable to diverse populations.

From 1977 to 1983, the National Heart, Lung, and Blood Institute (NHLBI), of the National Institutes of Health, (NIH) supported a congressionally-mandated program to demonstrate the value of coordinating hypertension control activities at the state level. The experience of the seven participating states led to the following recommendations for other states

that were considering such a program: assess available resources and identify gaps or duplications; consider establishing a statewide coordinating council; clearly define the roles of all involved parties; involve physicians in the project from the onset; encourage common standards and guidelines; involve additional types of health care personnel; consider non-traditional sites to deliver services to target populations; and consider the appropriateness of a regional approach to coordinate services. All seven states showed improvements in their awareness, treatment, and control rates for persons with blood pressure greater than or equal to 140/90 mm Hg. Apparent long-term effects include greater visibility and credibility of state hypertension control programs, increased public knowledge about hypertension, increased professional awareness about detection and treatment approaches, accumulation of valuable data through resource inventories and household surveys, and improved knowledge about and links with other organizations involved in controlling hypertension.

The **Five Sites Demonstration Project**, launched in August 1980 by the NHLBI and the Health Services Administration Bureau of Community Health Services (BCHS), in direct response to a recommendation by a task force of black health providers of the National High Blood Pressure Education Program, provided grants to five states to develop and operate model high blood pressure education and control systems within primary health care centers. Two centers were rural and over 70% of the clients were black, and one center was rural and over 40% of the clients were Hispanic. With two-thirds of the 600 BCHS primary care centers nationwide serving African-Americans, this setting offered an ideal control program for black Americans where financial and service barriers were reduced and care resources were accessible. Each center included screening and detection; public, patient, and professional education

activities; and coordination with other resources within the community. Initial efforts were directed to existing hypertensive patients, then expanded to their families, and then to those living within the service area of a center. Program data indicated a significant lowering of mean blood pressure among participants.

In response to the Department of Health and Human Services (DHHS) Secretary's Task Force on Black and Minority Health (1985), the NHLBI issued a request for grant applications in 1986 to study individual and environment factors that might influence health care-seeking behavior by blacks and account for their puzzling profile of lower CHD morbidity but higher CHD mortality compared with whites. Applicants were encouraged to examine differences in practitioner referral patterns, in patient willingness to visit and accept specialized services, in ability to pay, and other possible explanations.

From 1991 to 1997, the NHLBI supported the **Stroke Belt Initiative**, a program to demonstrate the capacity of state health departments to design and implement approaches to reduce the risk of stroke in 11 states with stroke death rates more than 10% higher than the national average. The Strike Out Stroke programs featured automated blood pressure measurement, coalition building, community health centers, contests, health care ministries or church teams, health fairs, heart-healthy cooking demonstrations, hypertension screening or education, nutrition education, poster contests, public service announcements, quality assurance audits, recipes, smoking cessation programs, training manual development, video production, weight loss programs, and youth mentors.

Important lessons were learned in the church-based programs:

- C Organizing and carrying out a program takes time--in some churches over 10 months expired between the first contact with the church and the first program event.
- C There is no single best way to recruit churches and sustain church participation.
- C Support from the clergy is essential.
- C Appointment of the right coordinator for the health care ministry or team is critical to keeping members committed to the screenings and other church activities.
- C Church teams can be very creative in devising ways to communicate health messages to their congregations.
- C Scheduling training sessions for church teams is often a challenge, so project staff must maintain patience and flexibility and work with the health care ministries to reschedule the training.

Other lessons learned include related to community interventions include:

- C Building coalitions to plan and carry out programs to prevent and control risk factors in communities takes time.
- C Smoking interventions by nurses and health educators with low-income smokers in health department clinics produce respectable quit rates.
- C Automated blood pressure measurement machines can make a valuable contribution to hypertension detection and control efforts in rural and low-income communities.

A September 1996 NHLBI-sponsored conference on "Community Trials for

Cardiopulmonary Health" reviewed the past three decades of community prevention trials to assess lessons learned, discuss practice principles, and provide directions for the future. A community prevention trial was defined as a primary prevention program to reduce population prevalence of multiple CVD risk factors in an intact community. The review examined interventions in diverse populations and included three major NHLBI demonstration studies:

- The **Stanford Five-City Project** (1979-1986): A 5-year education program consisting of TV, radio, newspapers, other print materials, direct education, and community events.
- The **Minnesota Heart Health Project** (1980-1987): A 5 to 6-year education campaign with mass media, community organization, and direct education as the interventions.
- The **Pawtucket Heart Health Project** (1981-1989): A 7-year campaign consisting of community organization, print media, environmental programs, and considerable use of volunteers.

The conference concurred that some of the early and most recent community prevention trials demonstrated some population-wide effects on CVD risk factors, particularly on blood pressure levels and smoking prevalence. Moreover, subgroup component studies (e.g., schools, worksites, events) demonstrated the effectiveness of multiple risk-reduction strategies. The results supported a dose-response relationship in that stronger effects were noted where more intense exposure to the intervention was achieved. The conferees concluded that although much remains untested in theory and practice, community-based efforts to reduce CVD risk can influence behavior. However, increased understanding is still needed for the optimal mix and sequencing of components of these programs. In addition, the review indicated the importance of incorporating strategies to influence environmental change (e.g., prolonged exposure to

misleading health-related advertising).

Summary

With regard to ethnic differences, the conferees concluded that because of the declining CVD rates observed in all population groups over the past two decades, minority and low SES groups can adopt and maintain healthy lifestyles when they have access to appropriate health promotion and disease prevention programs. Such declines counter the views of skeptics who argue that minority and low SES groups are "hard to reach" and, even if reached, are "resistant to change." Fortunately, CVD is largely preventable, especially if preventive practices are incorporated into everyday life and if all groups have equal access to healthy foods, a tobacco free lifestyle, regular physical activity, and a supportive environment with access to health care.

Given the increasing diversity of Americans, the conferees concluded that health professionals need to become more involved with interventions that can accelerate positive changes in CVD risk factors and disease, especially in high risk populations. We must learn how to identify and understand groups with a high prevalence of risk factors and disease and how to design effective individual and societal interventions that benefit them. This is especially important for minority, low SES, and other population groups that experience barriers to healthy lifestyles because of few personal resources and adverse societal influences. For example, many population groups do not have access to heart-healthy foods, safe and inexpensive places to exercise, and smoke-free environments.

The change process must be placed in a broader societal context than previously because of the growing heterogeneity of communities, the complexity of community dynamics and structures, and the countervailing societal forces that affect it. There is a pressing need to

understand how sociocultural and societal factors affect biological and behavioral risk factors for CVD. By building on the strengths of past work and incorporating new strategies, the benefits of CVD prevention and treatment can be extended to all population groups, regardless of age, gender, ethnicity, or SES.

Recommendations

To improve intervention efforts to reduce disparities among populations at risk for cardiovascular disease, existing community intervention programs should be modified and new programs should be implemented to reflect the following characteristics.

A. General:

- Use a combination of strategies, such as office reminders (e.g., notes, call-backs), feedback, practice guidelines, and involvement of multidisciplinary health teams, in educational intervention programs conducted in health care settings.
- C Implement programs to increase the delivery of secondary prevention activities among racial and ethnic minorities.
- C Increase the focus racial and ethnic disparities in heart failure mortality, morbidity, and treatment modalities.
- Develop partnerships between public health groups and religious organizations.
 - Include measures of SES when examining racial and ethnic health disparities.
 - Use sensitive outcome measures for intervention studies that target high risk groups.
 - Use a combination of media channels, e.g., television, radio, and newspapers, to maximize

outcomes for various groups in a population.

- When feasible, use both population-wide and targeted subgroup intervention approaches.
- Customize intervention programs to specific cultural and ethnic needs of the target group.
- C Develop policy and environmental strategies aimed at reducing disparities.
- C Explore the feasibility of stratifying clinical performance measures related to the risk for cardiovascular disease by SES and race.

B. Statewide:

- Assess available resources and identify gaps or duplications.
- Establish a statewide coordinating council.
- Clearly define the roles of all involved parties.
- Involve local physicians in the project from the onset.
- Encourage uniform standards and guidelines.
- Involve additional types of health care personnel.
- Consider non-traditional sites to deliver services to target populations.
- Consider the appropriateness of a regional approach to coordinate services.

C. Faith-based:

- Ensure the support of the clergy.
- Appoint the right coordinator for the health care ministry or team.
- Schedule culturally appropriate, skill-based training sessions for church teams/faith teams.
- Utilize church teams in devising ways to communicate health messages to the congregation.

- Develop partnerships with health care programs.

VI. Strategies for Engaging Partnerships

An extensive literature on coalition- and partnership-building exists to guide organizations that wish to mobilize to promote cardiovascular health and prevent disease in minority communities. Particularly recommended is CDC's *Principles of Community Engagement*, a science-based and practical guide for public health professionals and community leaders.³⁶

“Community engagement is defined as the process of working collaboratively with groups of people who are affiliated by geographic proximity, special interests, or similar situations with respect to issues affecting their well-being. Engagement principles can be used by people in a range of roles, from the chief executive of an organization or program funded who needs to know how to support community engagement, to the frontline health professional or community leader who needs hands-on, practical information on how to mobilize members of a community”.

In practice, community engagement is a blend of science and art. The science comes from sociology, political science, cultural anthropology, organizational development, psychology, social work, and other disciplines with organizing concepts drawn from the literature on community participation, community mobilization, constituency building, community psychology, cultural influences, and other source. The art comes from understanding, skill, and sensitivity that is used to apply and adapt the science in ways that fit the community and the purposes of specific engagement efforts.

Agency Collaborations

In addition, the Public Health Service agencies within HHS have extensive experience developing partnerships at the regional, State, Tribal, county, city and community levels. Enhancement of these partnerships, development of new coalitions, and better communications among these disparate activities are necessary to build a community of interest and a base of support for improving cardiovascular health in these populations.

The Health Resources and Services Administration (HRSA) through the Bureau of Primary Health Care (BPHC), provides leadership in ensuring access to quality preventive health care and primary health care for underserved and vulnerable populations through approximately 730 community and migrant health centers, health care for the homeless programs, primary health care in public housing programs and through primary health care programs for individuals infected with human immunodeficiency virus (HIV) infection and persons with substance abuse problems.

The Indian Health Service oversees a system of federal, tribal and contract health services for Indian populations in the reservation states. The Indian Health Service is directed from national, regional and local levels with close, continuing consultation with tribes, urban Indian programs and American Indians and Alaska Native organizations. The Indian Health Service has developed collaborative mechanisms to ensure consultation from its American Indian and Alaska Native partners in all major health decisions and initiatives.

HRSA's Division of Community Migrant Health is working closely with the National Committee for Quality Assurance (NCQA), George Washington Center for Health Policy Research, Health Center clinicians, staff and a technical assistance panel from the Health Care

Financing Administration in the development of Performance Clinical Measures. The Quality Office is working with the Institution for Health Care Improvement on the development of performance measures in Diabetes. Cardiovascular Disease will be examined after work on diabetes is completed.

The Health and Human Services Office on Women's Health promotes activities that reduce disparities in the health status of women and racial and ethnic minorities and stimulate collaborative partnerships to ensure access to affordable, comprehensive and coordinated health care that responds to the unique cultural and linguistic needs of the population. In 1998, up to six new Centers of Excellence with a special emphasis on serving minority populations will be established.

National Service Organizations

The Indian Health Service has a memorandum of understanding with the American Heart Association for American Indians and Alaska Natives representation on the southwest board of directors of the southwestern affiliate and has provided funding for projects focused on American Indians and Alaska Natives communities related to prevention and epidemiological evaluations.

The Indian Health Service has worked collaboratively with the American Diabetes Association in a number of arenas related to education (both professional and public), surveillance and prevention activities in the realm of diabetes and its complications, including cardiovascular disease.

HRSA's Bureau of Primary Care, through the National Health of Migrants Initiative is actively involved in the Community-Based Diabetes Control Cardiovascular Risk Reduction

Program, of the St. Louis Comprehensive Health Centers, Inc., in St. Louis, Missouri. This program provides a one-stop shopping model for diagnosis, treatment, education, diet therapy and follow-up care to adults at risk of diabetes and cardiovascular disease.

State, Local and Other HHS Agencies Partnership Activity

The Health and Human Services' (HHS) Office of Minority Health (OMH) maintain an informal Minority Health Network comprising OMH headquarters and regional office staff, HHS Operating Division Offices of Minority Health, State Offices of Minority Health, the OMH Resource Center, and various private partners, including recipients of OMH grants and cooperative agreements. The National Minority Health Network is a voluntary and informal network that links federal, state, and local health systems with individuals and organizations around the nation to improve the health status of racial and ethnic minority populations. The National Minority Health Network serves as a mechanism for state partnerships to provide input to the OMH about issues and needs of racial/ethnic minority communities in its jurisdictions, which allows for timely dissemination of information to state partners about issues and efforts that affect racial and ethnic minorities and provides assurance that at least some attention is paid to health issues and disparities that affect racial/ethnic minorities at the state level and to building capacity accordingly.

The Office of Minority Health administers two small grant programs: the minority community health coalition demonstration program and the bilingual/bicultural service demonstration program. Many of the grant recipients are neighborhood and community organizations. Some 21 umbrella cooperative agreements with national minority organizations enable OMH and a changing roster of other HHS partners (depending on health issue and

population addressed) to engage in joint projects with these organizations. A cooperative agreement with a consortium of 19 educational institutions including HBCUs, while not devoted to heart health issues, may perhaps provide a model for involving educational institutions with community prevention efforts. Two other cooperative agreements specifically target asthma attack avoidance and care among Hispanic and African American children.

Earlier this spring, the Office of Minority Health announced the availability of funds under the State Partnership Initiative. The purpose of this initiative was to assist State offices of minority health to develop or expand their existing infrastructure in addressing the public health needs of racial/ethnic minorities and/or to undertake special projects to address emerging health-related issues impacting minority communities.

In addition, the Office of Minority Health has initiated a study entitled “Assessment of State Minority Health Infrastructure and Capacity to Address Issues of Health Disparity.” This project will examine the nature and extent of the minority health infrastructure within nine State public health agencies. The goal is to determine those factors that contribute to or detract from the establishment and sustained support for such entities, and to assess the viability of and effects on the State’s capacity to address the needs of racial and ethnic minorities, disparities in health status, and risks to health. Barriers and concerns that may be studied include: (1) determining whether the mission of the SOMHs are too broad, given the level of resources allocated to address minority health issues; (2) where the SOMHs fit within the public health agencies; and (3) the survival of minority health entities and the need to validate their existence.

The HRSA’s Community Health Center (CHC) Program provides access to case-managed, family oriented preventive and primary health care services for people living in rural and urban

medically underserved communities. It coordinates cooperative agreements and grants, with National, State, and regional health and primary care organizations.

HRSA's Migrant Health Centers (MHC) provide access to comprehensive medical care services to migrant and seasonal farm workers and their families with a culturally sensitive focus. Cooperative agreements with state agencies and with state and regional Primary Care Associations augment MHC effectiveness by coordinating federal and state primary care resources.

The Strong Heart Study is the largest epidemiological study of cardiovascular disease and its risk factors among American Indians to date, involving 13 tribes located in Arizona, Oklahoma, North and South Dakota as well as a number of academic institutions. This study is funded primarily through the National Heart, Lung and Blood Institute and incorporates support from the Indian Health Service.

The Inter-Tribal Heart Project is a collaborative evaluation of the prevalence of cardiovascular risk factors, including lifestyles, use of health care services and psychological conditions related to CVD among three Indian reservations in the Bemidji Service Area of the Indian Health Service with primary support provided by the CDC.

Collaborations with Universities, Colleges and Other Academic Institutions

The Agency for Healthcare Research and Quality (AHRQ) provides funding to the Medical Treatment Effectiveness Program (MEDTEP) Research Center for Minority Populations at Morehouse Medical School. The MEDTEP Research Center was established to sustain a comprehensive and coordinated program of research, training, technical assistance and dissemination, focusing its efforts and activities on selected health concerns (HIV/AIDS,

maternal and child health and CVD) that disproportionately affect the health status and well-being of African Americans. In 2000 AHRQ will find several centers of excellence to academic institutions linked with community organizations focused on eliminating disparities. In addition, one half of AHRQ's Translating Research Into Practice Initiative for 2000 (TRIP II) will focus on six conditions that are the focus of the President's Initiative on Race. These latter grants will be awarded to researchers working in partnership with community-based health care organizations.

The Native American Cardiology Program is a collaborative effort between the Indian Health Service, the University of Arizona, the University Medical Center and the Tucson Veterans Affairs Medical Center to improve the clinical and preventive cardiovascular care provided to AI/NA located in the southwest.

The Center for Native American Health is another example of a successful collaborative effort among tribes, urban programs, the Indian Health Service and the University of Arizona. This Center is focused on building community capacity in prevention through collaborative support and mutual expertise. This program is directed by an advisory council composed of tribal and urban health leaders.

Non-Traditional African-American Partnerships

The Health Resources and Services and Administration and the Center for Disease Control and Prevention have funded the Congress of National Black Churches to develop "health councils" in ten targeted cities. The Health Councils are composed of local-based clergy members and health professionals, for the purpose of working in partnership to assess and address current health problems affecting the African American community and to develop

collaborative projects aimed at improving the health status of this population.

Recommendations

- ❧ The involvement of the community (tribal leaders, community based organizations (CBOs), state and local health officials, federal and national health leaders) is a necessary component of any successful partnership.
- ❧ This Chapter's recommendations include emphasizing the importance of primary, secondary and tertiary prevention and clinical wellness in addition to clinical treatment, trials and protocols.
- ❧ The current network of partners should be expanded and broadened to include collaborations with minority organizations, trade unions, HMO's, local government agencies including commerce and other government agencies such as the Department of Housing and Urban Development and the Department of Transportation.
- ❧ Funding should be expanded and diversified across national, regional, and community-based organizations as well as states and territories.

Racial and Ethnic Disparities Initiative: HHS Cardiovascular Disease Workgroup
INVENTORY OF EXISTING HHS ACTIVITIES TO REDUCE DISPARITIES IN CARDIOVASCULAR DISEASE

Agency	Program or Project Name	Program or Project Description	Impact on Disparity	Evaluation Strategy or Plan	FY 98 \$ for Total Project	FY 98 \$ for Reducing Disparity	Program Target (Exclusive; Partial; or Indirect)	Type of Program or Project					
								Data	Research	Cmnty Intrvntn	Ed /Comm.	Health Care Finance	Health Srv Dlvry
IHS/CDC	Center for Native American Health	Development of prevention capabilities within communities.	Assessment of the impact of prevention programs.	Dissemination of information regarding education and program effectiveness			Exclusive		X	X	X		X
IHS	Native American Cardiology Program	Examination of Cardiovascular disease prevention and clinical care efforts	Assessment of the impact and dissemination of prevention efforts	Identification of segments of the population where additional prevention efforts are indicated			Exclusive			X	X		X
IHS	Diabetes Initiative of the Indian Health Service	Grants to tribal and urban centers for primary and secondary diabetes prevention programs	Elimination of disparities in primary and secondary prevention	Delivery of prevention efforts and trends in morbidity and mortality.			Exclusive			X	X		X
IHS	Diabetes Prevention Program	Grants to tribal groups regarding primary and secondary diabetes prevention efforts	Elimination of disparities in primary and secondary prevention.	Delivery of prevention efforts and trends in morbidity and mortality			Partial			X	X		X
HRSA	Community-based Diabetes Control and CVD Risk Reduction Program	Diagnosis, treatment, education, diet therapy, and follow-up care for adults at risk for developing diabetes mellitus and cardiovascular disease.	Increased diagnosis, treatment and care for populations at risk.	Assessment of the delivery of health care to persons at risk.			Partial			X	X		X
CDC	CVD Atlas by Race/Ethnicity	Set of maps displaying geographic patterns of CVD morbidity, mortality and risk factors.	Identifies communities at greatest risk	Indication of communities where additional resources are needed.	\$200,000	\$200,000	Partial	X				X	X
CDC	Behavioral Risk Factor Surveillance System	State-based surveillance system that measures, CVD risk factors, primary and secondary prevention efforts	Provides data to document where racial disparities exist.	Number of states using the CVD module; adequate sampling of target population.			Partial	X				X	X

CDC	Environmental and Policy Interventions to Increase Physical Activity Among Minority Women ages 40-75	Community-based intervention to increase rates of physical activity among African-American women.	Provide model for environmental and policy interventions to increase rates of physical activity.	Assessment of policy and environmental interventions.	\$500,000	\$500,000	Exclusive		X	X			
CDC	Heart Failure Surveillance	National vital statistics and health claim data among the Medicare-aged population.	Assess impact of primary and secondary prevention efforts on heart failure mortality and morbidity	Determination of racial disparities in treatment, mortality, and morbidity			Partial	X				X	X
CDC	Ischemic Heart Disease Surveillance	National vital statistics and health claim data	Assess impact of primary and secondary prevention efforts on IHD morbidity and mortality	Determination of racial disparities in treatment, mortality, morbidity			Partial	X				X	X
CDC	Peer support Intervention for CVD Risk among African-American Women, Aged 40 and Older	Community-based intervention to reduce CVD risk factors among African-American women	Provide model for community-based approach to reduce disease burden	Assessment of quality of care, and self-management	\$400,000	\$400,000	Exclusive		X	X	X		
CDC	Reducing CVD Risk among Black Women ages 40 and Older	Church-based intervention to reduce CVD risk factors among African-American women	Provide model for church-based approach to reduce disease burden	Assessment of quality of care and self management	\$522,101	\$522,101	Exclusive		X	X	X		
CDC	Stroke Prevention in Young Women	Population-based case-control study evaluating risk factors for stroke in young women.	Provide model for effective and specific stroke prevention programs	Assessment of stroke risk factors.	\$225,000	\$225,000	Exclusive	X					
CDC	Stroke Surveillance	National vital statistics and health claims data	Assess impact of primary and secondary prevention efforts on stroke morbidity and mortality	Determination of racial disparities in treatment, mortality and morbidity			Partial	X				X	X
CDC	Women's Cancer and CVD Control Project	Clinic-based intervention to reduce nutritional risk factors for CVD among women.	Provide model for clinic-based approach to improve nutritional status	Assessment of nutritional status.	\$300,000	\$300,000	Partial		X	X	X		

CDC / IHS	Inter-Tribal Heart Project	Epidemiologic study examining the prevalence of cardiovascular disease risk factors	Provides data documenting where disparities exist	Determination of disparities in risk factors and morbidity			Exclusive	X	X				
NIH	Identification of CVD Risk Factors	Identify risk factors for development and progression of CVD in diverse populations	Identify associated risk factors for CVD before symptoms, heart attacks and stroke occur.	Peer review	\$27,733,000	\$27,733,000	Partial	X					
NIH	Reduction of CVD Risk Factors	Test the effectiveness of educational and other interventions to reduce risk factors for CVD.	Evaluate and identify appropriate interventions to reduce CVD among diverse populations.	Peer review	\$9,661,000	\$9,661,000	Partial		X				
NIH	Underlying Mechanisms of CVD	Examine the physiological and genetic basis of CVD among diverse populations	Clarify the complex associations between the underlying mechanisms of CVD and the high prevalence rates observed in diverse populations.	Peer review	\$16,595,000	\$16,595,000	Partial	X					
NIH	Treatment Modalities for CVD	Compare antihypertensive therapies and surgical techniques.	Establish appropriate and effective drug treatments and surgical techniques in racial and ethnic subgroups.	Peer review	\$11,531,000	\$11,531,000	Partial	X					
NIH	Education and Demonstration Programs for CVD	Coordinate, translate, and disseminate research findings and scientific consensus to the public.	Develop and implement health education programs and initiatives that address CVD risk factors for high risk individuals and the	Peer review	\$4,554,000	\$4,554,000	Partial			X			
NIH	Research Training	Provide research training and career development programs at all stages of an investigator's career.	Establish specific research training programs to encourage minority researchers and faculty to develop research skills in areas	Peer review	\$9,373,000	\$9,373,000	Partial	X					
NIH	Other Activities	Conduct special initiatives and studies, i.e., the Jackson Heart Study and the Women's Health	Provide epidemiological data on individuals and family cohorts within diverse subpopulations.	Peer review *WHI \$ are prorated	\$4,616,000*	\$4,616,000*	Exclusive	X					
NIH / IHS	Strong Heart Study	Epidemiologic study of cardiovascular disease and its risk factors	Provides data documenting where disparities exist	Determination of disparities in morbidity, mortality and risk factors			Exclusive	X	X				
CDC / NCHS	Minority Health Statistics Small Grant Program	Fund small projects, maintain databases, hold training conferences.	Improve available data			100%	Exclusive	X			X		

CDC / NCHS	NHANES III	National health examination survey with over sampling of African- Americans and Mexican Americans	Improve available data on CVD risk factors			NA	Indirect	X					
CDC / NCHS	NHIS	National health interview survey with over sampling of Hispanics	Improve available data on behavioral CVD risk factors			NA	Indirect	X					
CDC / NCHS	Vital statistics	Collect mortality data	Monitor CVD mortality			NA	Indirect	X					

VIII. Data Needs

The Working Group has identified the following data needs: Current data needs for national data (NCHS/CDC/HCFA) include the following: Vital statistics should be used to develop unbiased mortality rates for Hispanic subgroups, American Indian/Alaska natives and for Asian/Pacific Islanders; and, in conjunction with the Bureau of Census, accurate population data for smaller race/ethnic groups. Morbidity data should be used to develop hospitalization and prevalence rates for Hispanics, American Indian/Alaska natives and for Asian/Pacific Islanders. Needed data on cardiovascular risk factors include current risk factor data for Hispanic subgroups, Asian/Pacific Islander subgroups, and for American Indian/Alaska Natives. Medical care databases should be exploited to yield current utilization data for Hispanics, Native American/Alaska natives, and Asian/Pacific Islanders. Efforts should continue for full implementation of Healthy People 2000 Priority Area 22 (Surveillance and Data Systems); see also HP 2000 Statistical Notes #15, Dec., 1997 ("Priority Data Needs"). Where feasible, similar data should be developed for states.

Research data (NIH/CDC). Building on completed and ongoing projects, continue further research based on "Working Group on CHD in Blacks Report" of NHLBI. Continue further research on CVD in American Indians should be based on the Strong Heart and Inter Tribal Heart Project Study investigators' recommendations. Continue further research should be developed on CVD in Hispanics and Asian/Pacific Islanders based on recommendations of the NIH ORMH.

Recommendations to Data Workgroup

National Data (NCHS/Census). Vital statistics may be of better use for minority health by the following: encouraging representation on the National Committee on Vital and Health Statistics from the National Medical Association, National Coalition of Hispanic Health and Health Services

Organization, National Hispanic Medical Association, Association of Asian/Pacific Community Health Organizations, Indian Health Service, and a historically black medical school (see <http://aspe.os.dhhs.gov/ncvhs>); encouraging the solicitation of data concerns for planning NCHS surveys, including NHANES, NHIS from the National Medical Association, Indian Health Service, COSSMHO, National Hispanic Medical Association, Association of Asian/Pacific Community Health Organizations, and a historically black medical school; encouraging an assessment of the impact of race category changes for Census 2000 and of ICD-10 on mortality rates.

Morbidity among minorities should be monitored by the following: encouraging Health Care financing Administration (HCFA) to collect data on Hispanics; NIH, CDC and/or their contractors should consider continuing to analyze HCFA Medicare data to establish approximate national incidence, case fatality, and 1-year survival rates and rate trends for AMI, congestive heart failure, and acute stroke in each major race/ethnic group. NCHS should consider adding a Hispanic ethnicity category/methodology in data collection and improve completeness of race reporting in the National Hospital Discharge Survey.

Data on risk factors in minorities may be enhanced by the following: considering a future Census as a mechanism for selected risk factor data for smaller racial/ethnic groups including American Indians; augmenting the Behavioral Risk Factor Surveillance System (BRFSS) to obtain risk factor data on Hispanic subgroups, Asian/Pacific Islander subgroups, and American Indians/Alaska Natives; considering increased use of the Youth Risk Behavior Survey with over sampling of minority populations in order to obtain risk factor information on Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native youth; considering implementation of cross-cutting recommendations on data issues from the COSSMHO National Hispanic Health Symposium and the DHSS Hispanic Agenda for Action (<http://www.cossmho.org/>), and to further examine the potential association between stress,

racism, the relative effects of wealth, and cardiovascular disease.

Monitoring of medical care utilization by minorities should continue as follows: considering further analyses of HCFA and other national data sets by race and ethnicity; encouraging HCFA to collect data on Hispanics; consider addition of Hispanic ethnicity to National Hospital Discharge Survey and other surveys. Local data (CDC/states) may be enhanced as follows: encouraging greater use of the BRFSS mechanism with over sampling of minority populations in order to calculate stable estimates of risk factors at both the state and local level; developing a community equity index; use of small area analysis; quality of life scales; monitoring migration patterns; encouraging geocoding of all health-related data in order to determine patterns of health and disease among minority populations (mortality, morbidity, risk factor, health care utilization)--patterns which may be masked when evaluating data at the state level. Research data (NIH/CDC) may be enhanced by encouraging funding of follow-up of adults examined in NHANES III for incidence of CVD and analyses by race and ethnicity. The Department should complete implementation of any unfinished items in Recommendation 7 (Improving and fully using available sources of data) of the 1985 DHHS Secretary's Task Force on Black and Minority Health, and consider implementation of unfinished recommendations of the CVD Working Group of that Task Force (e.g., determining the incidence of sudden cardiac death in racial groups, and developing statistics for growing Asian subgroups such as Cambodians, Vietnamese, East Indians). Further continued efforts should be undertaken to meet all objectives specified in Healthy People 2000 Priority Area 22 (Surveillance and Data Systems; see also HP 2000 Statistical Notes #15, Dec., 1997, "Priority Data Needs") that relate to CVD in minority populations.

IX. Evaluation Of Progress

The draft overview of the Heart Disease and Stroke Chapter of HP 2010 provides an excellent review of progress. The following are excerpts from the draft:

Deaths from coronary heart disease, the major form of heart disease, increased until its peak in the mid-1960s. Since then, the death rate has been declining in the general population. CHD mortality since 1950 demonstrates a clear rise and fall for each race-sex group. The long-term rise and fall in heart disease occurred in both the white and African-American populations, but the rates of decline are steeper in white males than in African-American males.

Since 1915, the heart disease mortality rate has been consistently higher in the African-American population than in the white population. In 1995, the age-adjusted death rate for heart disease was 42 percent higher in African-American males than in white males, 65 percent higher in African-American females than white females, and almost twice as high in males as in females. The age-specific death rates for heart disease are higher in African-American males than in white males until age 85, and higher in African-American females than in white females until age 85.

The CHD declines show that in the 1980s white males and females experienced steeper declines in mortality than African-American males and females. However, African-American females had the steepest rate of decline in the 1970s but the lowest decline in the 1980s. In contrast with the 1970s, males had a steeper rate of decline than females in the 1980s. Between 1980 and 1995, the percentage declines were greater in males than in females, greater in whites than in African-Americans, and less for African-American females.

Stroke mortality rates have been declining over the past 30 years; however, recent data show that the rates have leveled off. Stroke mortality rates show that the declines accelerated in the 1970s for both males and females. The rate of decline has slowed; however, in recent years, the decline in stroke mortality also accelerated in the 1970s for whites and African-Americans.

Stroke mortality is highest in African-American females born before 1950 and highest in African-American males born after 1950. Stroke mortality has been lowest in white females since 1915. Stroke

mortality declines were small in the 1980s compared with the 1970s, particularly in the African-American population. The age-adjusted death rate for stroke has flattened since 1992 and the unadjusted death rate is increasing. Among the sex-race groups, declines are smallest in African-American males.

Longstanding programs have radically changed the way we Americans think about our health--we now eat less fat, smoke less, have lower blood cholesterol on average, and more of us control our hypertension than we did 10 years ago. However, the rates of heart disease and preventable risk factors are still higher among racial and ethnic minorities and among those with less education and income.

By 1998, only two of the 17 Healthy People 2000 objectives for heart disease and stroke met or exceeded their targets. These were objectives 15.7 and 15.8, elevated cholesterol levels and awareness of condition and taking action to control. However, seven additional objectives (15.1, 15.5, 15.6, 15.9, 15.13, 15.14, and 15.17), on average or in part, achieved at least 50 percent of their targets.

Future evaluations

Evaluation of future efforts to prevent CVD should be based upon changes in mortality, risk factors, public awareness and counseling, development of a nationwide program, and development of core competencies in public health to address the disparities.

Mortality

Evaluation of CVD prevention and control efforts should be based on the overall reduction of deaths from CHD and strokes in African-Americans, both males and females, to the Healthy People 2010 levels and the extent of the reduction in the disparity between African-Americans and the general population for deaths from both CHD and strokes.

Risk Factors

Evaluation of CVD prevention and control efforts should be based upon the following:

- C the extent to which minorities, both males and females, have had their LDL cholesterol level treated to Healthy People 2010 objectives;
- C The extent to which minorities meet guidelines for weekly physical activity;
- C The extent to which minorities eat five or more servings daily of fruits and vegetables;
- C The extent to which African-Americans, both males and females, control hypertension.

Awareness and Counseling

Evaluation of CVD prevention and control efforts should be based on the following:

- C The extent to which minorities are aware of early warning symptoms and signs of a heart attack and cardiac arrest and the importance of rapid emergency care by calling 9-1-1, and
- C The extent to which high-risk minorities report counseling from their health care providers about the early warning symptoms and signs of a stroke.

Program Development

Evaluation of CVD prevention and control efforts should be based on the following:

- C The number of States that have comprehensive prevention and control programs in place, and
- C The percent of States which have core competencies to address their disparities in CVD.

Clinical Care

Evaluation of CVD clinical care should be based on the following:

- C The extent to which high-risk minorities report daily aspirin use and prevention therapy such as beta blockers and ACE inhibitors.
- C The extent to which high-risk minorities receive invasive cardiac procedures such as angioplasty and coronary artery bypass surgery.
- C Beginning in 2003 AHRQ will produce an annual report on disparities in health care delivery which provide additional information on progress towards eliminating disparities in health care.

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